CHOI et al   Q64312

der For A Turbo Decoder, For Recovering

Parity Symbols, And A Method For.....

August 28, 2001

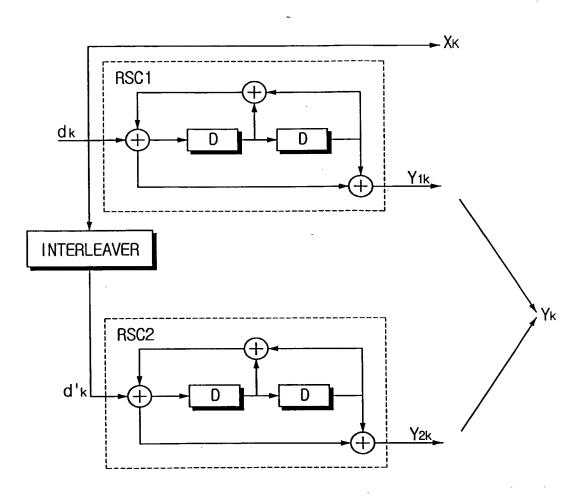Darryl Mexic   202-293-7060

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FIG.1

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ured Parity Symbols, And A Method For.....
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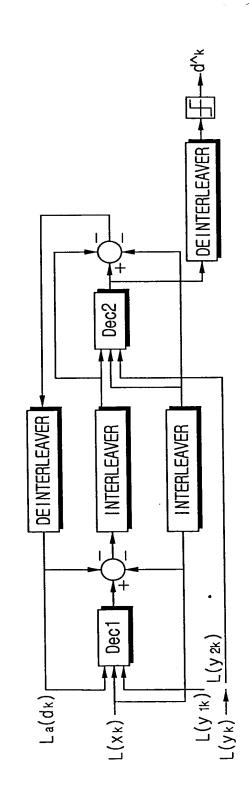Darryl Mexic   202-293-7060
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FIG.2

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ecoder For A Turbo Decoder, For Recovering
ured Parity Symbols, And A Method For.....
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FIG.3

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and Parity Symbols, And A Method For.....
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FIG.4

$L(x_k)$

$L(y_{1k})\hat{\ }\hat{\ }$

$L(y_{2k})\hat{\ }\hat{\ }$

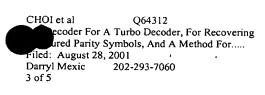DEMODULATOR → PRE-DECODER → TURBO DECODER → $d\hat{\ }_k$
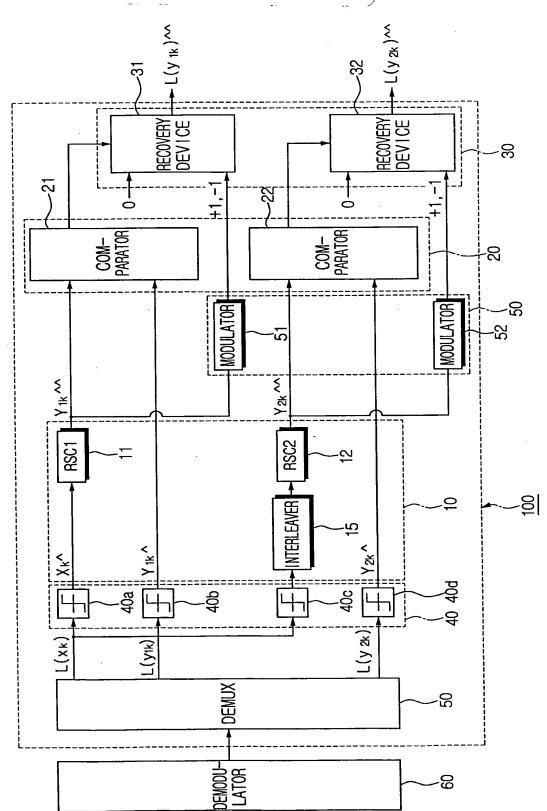
100   200

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Pre-Decoder For A Turbo Decoder, For Recovering
...ured Parity Symbols, And A Method For.....
...: August 28, 2001
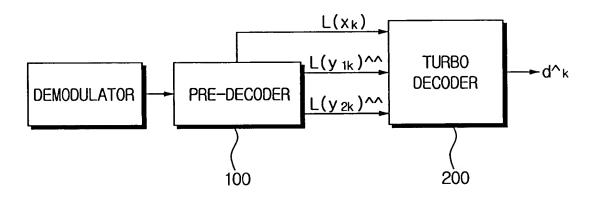Darryl Mexic   202-293-7060
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FIG.5

```
                    ┌─────────┐
                    │  START  │
                    └─────────┘
                         │
                         ▼
         ┌──────────────────────────────┐
         │  RECEIVE DATA SYMBOL          │
         │  STREAM AND PARITY            │
         │  SYMBOL STREAMS FROM          │──── S1
         │  DEMODULATOR                  │
         └──────────────────────────────┘
                         │
                         ▼
         ┌──────────────────────────────┐
         │  SEPARATE DATA SYMBOL         │
         │  STREAM AND PARITY            │
         │  SYMBOL STREAMS FROM          │──── S2
         │  TURBO CODE                   │
         └──────────────────────────────┘
                         │
                         ▼
         ┌──────────────────────────────┐
         │  BINARIZE SEPARATED BIT       │──── S3
         └──────────────────────────────┘
                         │
                         ▼
         ┌──────────────────────────────┐
         │  CALCULATE ESTIMATION         │
         │  AS TO PARITY BIT             │
         │  STREAMS BY USING             │──── S4
         │  DATA BIT STREAM              │
         └──────────────────────────────┘
                         │
                         ▼
                  ╱ ESTIMATION ╲        N
                ◄  =PARITY BIT   ►────────────────┐  S5
                  ╲     ?      ╱                   │
                         │ Y                       │
                         ▼                         ▼
         ┌──────────────────────────┐  ┌────────────────────┐
         │  SUBSTITUTE PUNCTURED     │  │  SUBSTITUTE '0'    │
         │  BITS FOR MODULATION OF   │  │  FOR PUNCTURED     │
         │  ESTIMATION               │  │  BIT               │
         └──────────────────────────┘  └────────────────────┘
                S6                          S7   │
                                                 ▼
                                           ┌─────────┐
                                           │   END   │
                                           └─────────┘
```